

REMARKS

Information Disclosure Statement

An Information Disclosure Statement, including a PTO-1449 Form, and copies of the two documents listed on the Form, is submitted herewith. These documents are full translations of Japanese applications that were previously made of record, although the previous Office Actions were based on English Abstracts of these documents.

As noted in the previous response, referring to an interview on February 4, 2003, the Examiner indicated he had ordered (through the U.S. Patent and Trademark Office) translations of the two Japanese patents applied in the Office Action, but he had never received them. Applicants requested that the translations be supplied by the Examiner.

While the June 17, 2003 Office Action again relied on these documents in maintaining the rejection, translations were not supplied.

Accordingly, Applicants have obtained translations, submit them herewith, and reference them below.

For the reason set forth above, it is believed there is no fee associated with this submission, but authorization is provided to authorize charging the deposit account, if appropriate. It is respectfully requested that the Examiner place his initials in the appropriate area of the Form, thereby indicating his consideration of the documents, and return the initialed Form to Applicants.

The following remarks are believed responsive to the points raised by the Office Action dated June 17, 2003. In view of these remarks, reconsideration is respectfully requested.

The Pending Claims

Claims 1, 3-5, 7-18, 20-22, 24-33, and 36-42, are currently pending.

The Office Action

For convenience, the following remarks will address the various rejections in the same order they were raised in the Office Action.

Section 112, Second Paragraph

Claims 4, 5, 7-18, 20-22, 24-33, and 36-42, were rejected under 35 USC 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject

matter which applicant regards as the invention. According to the Office Action, the “scope of the term ‘about’ is unknown.” This rejection is respectfully traversed.

In the previous response, Applicants referred to well-established case law holding claims employing the term “about” to be definite. Applicants referred to *Modine Mfg. Co. v. U.S. Intern. Trade Comm’n*, 37 USPQ2d 1609, 1615 (Fed. Cir. 1996) *cert. denied sub nom. Showa Aluminum Corp. v. Modine Mfg. Co.*, 518 U.S. 1005 (1996) (“[a]lthough it is rarely feasible to attach a precise limit to ‘about’ the usage can usually be understood in light of the technology embodied in the invention”) and *Pall Corp. v. Micron Separations, Inc.* 36 USPQ2d 1225, 1229 (Fed. Cir. 1995) *cert. denied*, 117 S. Ct. 1243 (1997) (“[t]he use of the word ‘about,’ avoids a strict numerical boundary to the specified parameter. Its range must be interpreted in its technologic and stylistic context.”).

The position set forth in the Office Action appears to be that “about” is acceptable when the “technology is like that [] discussed in *Modine*” and, because the technology embodied in the present application was not stated in the previous response, *Modine* is not clearly “relevant” case law.

Applicants respectfully disagree. As an initial point, Applicants submit the case law is not limited to a technology that is the same as that in *Modine*. One of ordinary skill in the art reading the claims in light of the instant specification would understand the scope of the term “about” as used in the field of the present invention. *See, Modine* at 1617: “[m]athematical precision should not be imposed for its own sake; a patentee has the right to claim the invention in terms that would be understood by persons of skill in the field of the invention.”

One of ordinary skill in the art reading the present application has a knowledge of enzymes, and an understanding of the crystalline:soluble cellulase activity ratio. Furthermore, the present application provides guidelines with numerous examples. Accordingly, one of ordinary skill in the art reading the present application, which includes reviewing the scores of data points in the specification, see, for example, page 5, lines 30-33, and the Examples, e.g., including Tables 1, 2, 3, 4, and, in particular, Example 8, that includes Table 6, would understand the scope of the term “about” as used in the claims with respect to the crystalline:soluble cellulase activity ratio.

Accordingly, Applicants submit the rejection is improper and should be withdrawn.

Section 103

Claims 1, 3-5, 7-15, 18, 20-22, 27, 28, 31, 33 and 37-42 were rejected under 35 USC 103(a) as being unpatentable over Japanese Patent No. 4267933 to Fuji Photo Film Co. Ltd.

(hereinafter referred to as "Fuji") in view of Applicants' alleged admissions on pages 1-3 of the instant application. This rejection is respectfully traversed.

Neither Fuji nor Applicants (i.e., in the background section at pages 1-3 of the present specification) taken alone or in combination, disclose or suggest a method for producing beer including filtering beer through a porous membrane until such time that the porous membrane is in need of cleaning, contacting the porous membrane with an enzyme selected from the group consisting of cellulases, amylases and combinations thereof in the absence of any other enzymes to clean the porous membrane, and reusing the porous membrane to continue filtering beer.

As used in Fuji (referring to the pages in the English translation), the term "enzyme" can include more than one enzyme (as "a washing solution, a solution containing proteinase and cellulase is used to wash the separation membrane" (emphasis added), page 2, lines 3-4). While Fuji indicates "the enzyme included in the cleaning solution being proteinase or cellulase or both" (page 2, line 15 of text), there is no suggestion anywhere in Fuji that any other enzymes are excluded, or that proteinase should be excluded when filtering beer. Both of the Examples (page 5 of the translation) include proteinase (excluded from the scope of pending claim 1), and Example 2, that refers to beer, discloses proteinase and glucanase, both of which are excluded from the scope of pending claim 1.

The background section of the present application (pages 1-3) merely discloses that to prolong the life of a filter, manufacturers of membrane filters recommend cleaning the used membranes by treating them with proteases, glucanases, and xylanases, as well as with chemicals such as surfactants, acids/bases, and oxidizing agents to make them reusable (see e.g., page 2, lines 6-11). There is no suggestion in the background section of a method for producing beer including filtering beer through a porous membrane until such time that the porous membrane is in need of cleaning, contacting the porous membrane with an enzyme selected from the group consisting of cellulases, amylases and combinations thereof in the absence of any other enzyme to clean the porous membrane, and reusing the porous membrane to continue filtering beer.

Accordingly, even assuming arguendo that one of ordinary skill in the art could be led from Fuji to the background section of the present specification, the combination would not lead one of ordinary skill in the art to the claimed invention.

Moreover, with respect to, for example, pending claim 3, neither Fuji nor the background section of the present specification, taken individually, or in combination, teach or suggest a method for producing beer including filtering beer through a membrane until the membrane needs cleaning, and contacting the membrane with a cellulase and no other enzyme to clean the porous membrane, and then reusing the porous membrane to continue filtering beer.

As noted above, Example 2 in Fuji, that refers to beer, discloses using proteinase and glucanase, both of which are excluded from the scope of pending claim 3.

With respect to claim 4 and those claims depending therefrom, the Office Action asserted (in the previous Office Action and apparently maintained in the present Office Action) cellulase having a crystalline:soluble cellulase activity ratio at 60 minutes of at least about 0.1 is a parameter that those in the cleaning art would optimize to obtain the best result.

The Office Action provides absolutely no support for such an assertion in the disclosures of Fuji, in the background section of the present application, or from the Examiner's personal knowledge. There is no reference to the crystalline:soluble cellulase activity in Fuji, or the background section of the present application, or referenced by an Examiner's affidavit or declaration, and thus, in the absence of authority for the assertion in the Office Action, the rejection is improper.

With respect to claim 4, it is noted the present Office Action refers to an argument made "for the first time" and stated "Applicants have not seasonably traversed the well known statement during examination, and therefore the object of the well known statement is taken to be admitted prior art." The Office Action cites *In re Chevenard*, 139 F.2d 71, 60 USPQ 239 (CCPA, 1943) and MPEP § 2144.03 as supporting this position. Applicants submit the Office Action's position is untenable, and supported by neither *Chevenard* nor the MPEP § 2144.03. The statement is not "well known", and Applicants have traversed it during examination. Applicants request the Examiner produce authority for the statement. With respect to the MPEP § 2144.03, Applicants note the "Procedure for Relying on Common Knowledge or Taking Official Notice" sets out, under headings A, B, C, and D, when the procedure is permissible, and it is respectfully submitted those conditions have not been met here.

There is simply no teaching or suggestion in Fuji and pages 1-3 of the present specification leading one to a method for producing beer including filtering beer through a porous membrane until such time that said porous membrane is in need of cleaning and contacting the porous medium with a cellulase having a crystalline:soluble activity ratio at 60 minutes of at least about 0.1 and then reusing the porous membrane to continue filtering beer.

Accordingly, even assuming *arguendo* that one of ordinary skill in the art could be led from Fuji to the background section of the present specification, the combination would not lead one of ordinary skill in the art to the claimed invention.

In view of the deficiencies as summarized above, it is submitted the rejection is based on impermissible hindsight using Applicants' disclosure as a template to be filled in, and Applicants respectfully submit the obviousness rejection is improper and should be withdrawn.

Claims 16-17, 24 and 25 were rejected under 35 USC 103(a) as being unpatentable over Fuji in view of Applicants' alleged admissions on pages 1-3 of the instant application and further in view of Japanese Patent No. 52122281 to Ebara Infilco KK (hereinafter referred to as "Ebara"). This rejection is respectfully traversed.

The deficiencies of the teachings of Fuji, and the improper basis for the rejection based on Fuji in view the background section of the present application (and/or based upon personal knowledge of the Examiner), have been summarized above.

Ebara is directed to washing impurities from an impermeable diaphragm, and fails to disclose providing a drinkable beverage. In fact, Ebara refers to filtering sewer water (Example 1).

Ebara fails to even mention beer, let alone suggest a method for producing beer including filtering beer through a porous membrane until such time that the porous membrane is in need of cleaning, contacting the porous membrane with an enzyme selected from the group consisting of cellulases, amylases and combinations thereof in the absence of any other enzymes to clean the porous membrane, and reusing the porous membrane to continue filtering beer.

Furthermore, Ebara discloses that, in the washing of impurities from an impermeable diaphragm, the enzyme can be protease or pepsinase, amylase, cellulase, lipase (translation page 3, lines 25-26), and thus teaches that the enzymes can be used interchangeably. The examples refer to alcozyme (Examples 1 and 2) and the enzymatic detergent Biz (Example 2). Thus, even assuming arguendo that the skilled artisan could be led from Fuji and the background section of the present specification to Ebara, the combination does not lead one of ordinary skill in the art to a method for producing beer including filtering beer through a porous membrane until such time that the porous membrane is in need of cleaning, contacting the porous membrane with an amylase in the absence of any other enzyme to clean the porous membrane and then reusing the porous membrane to continue filtering beer.

Claims 26, 29, 30, 32 and 36 were rejected under 35 USC 103(a) as being unpatentable over Fuji in view of Applicants' alleged admissions and further in view of an article in the *Journal of Colloid and Interface Science* by Bolay et al., (hereinafter referred to as "Bolay"). This rejection is also respectfully traversed.

The deficiencies of the teachings of Fuji, and the improper basis for the rejection based on Fuji in view the background section of the present application (and/or based upon personal knowledge of the Examiner), have been summarized above, particularly with respect to claims 1 and 4, and are equally applicable here.

Bolay fails to refer to producing beer. Additionally, there is no disclosure in Bolay of cleaning membranes. Bolay merely discloses filtering dilute egg protein solutions and following

the evolution of the electrical properties of membranes during the fouling process by stream potential measurements. There is no suggestion in Bolay or Fuji, whether taken individually or in combination, of monitoring streaming potential or zeta potential of a membrane as a measure of extent of the clogging of the membrane and halting filtration before the membrane becomes fully clogged as determined by the streaming potential or zeta potential of the membrane. Bolay fails to remedy the deficiencies of Fuji, and thus the combination fails to render the claimed invention obvious.

In view of these disclosures, Fuji, the background section of the present specification, and Bolay, whether taken alone or in combination, fail to disclose or suggest a method for producing beer including filtering beer through a porous membrane that progressively clogs during filtration, monitoring the streaming potential or zeta potential of the porous membrane as a measure of the extent of clogging of the porous membrane, halting filtration of the beer through the porous membrane before the porous membrane becomes fully clogged as determined by the streaming potential or zeta potential of the porous membrane, cleaning the porous membrane, and then reusing the porous membrane to continue filtering beer.

Thus, even assuming *arguendo* that one of ordinary skill in the art could be led from Fuji and the background section of the specification to Bolay, the combination would not lead those of ordinary skill in the art to the presently claimed invention. Accordingly, it is submitted the rejection is based on impermissible hindsight, and Applicants respectfully submit the obviousness rejection is improper and should be withdrawn.

For the reasons set forth above, reconsideration of the rejections is respectfully requested.

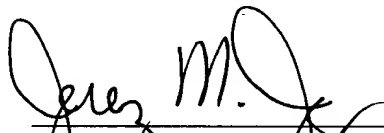
Conclusion

In view of the remarks recited herein, the application is considered in good and proper form for allowance, and the Examiner is respectfully requested to pass this application to issue.

In re Appln. of PELZ et al.
Application No. 09/402,721

If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,



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